

Introduction¹

Our county has an abundance of open space features, including majestic natural landmarks, outstanding scenic vistas, important wildlife habitats, lands with recreational opportunities and other valuable open space resources. These resources, along with the agricultural attributes described in the Agriculture Element, are essential to the future of this county.

Diverse open space resources provide a major attraction to visitors from around the world and make this county a special place to live. They are a defining characteristic of San Luis Obispo County. These resources include the unique 1,000,000 year old landmark volcanic peaks known as The Morros, stretching from Morro Rock to Islay Hill in San Luis Obispo; significant coastal wetlands, and rare coastal dune ecosystems; the oak woodlands of the Adelaida area; the stark beauty and endangered wildlife of the Carrizo Plains. These places are unique and worthy of protection for their intrinsic value. In addition, recreation and tourism that is based on the local open space resources contribute substantially to the local economy. The latest information from the California Trade and Commerce Agency indicates that travel expenditures in San Luis Obispo County amounted to approximately \$1.84 billion in 2007.

San Luis Obispo County supports the protection, restoration and preservation of significant open space features which are irreplaceable resources for enjoyment by current and future generations. This is necessary in order to enjoy scenic beauty and recreation, discourage premature and unnecessary conversion of open space to urban uses, maintain public health and safety, and to maintain the economy.

This chapter provides direction for the protection of the critical and diverse open space resources in the unincorporated areas of the county. State planning law defines open space to include a wide range of resources, including open space for the protection of natural resources, the managed production of resources (which includes the agricultural lands discussed in the Agriculture Element), outdoor recreation, and the protection of public health and safety.

In this chapter, open space lands are defined as resources or features of the landscape with unique or sensitive habitat for plants and animals; recreational opportunities; distinctive scenic values; hazards that threaten public health and safety; or archaeological or historical sites. Because open space resources do not observe man-made boundaries, they occur on both public and private lands. Therefore, the goals and policies in this Open Space Element refer to the treatment of open space resources on public lands and on private non-agricultural lands. The reader should refer to the Agriculture Element for the treatment of open space resources located on agricultural lands.

¹ This appendix is excerpted from the County of San Luis Obispo General Plan Open Space Element.

The open space resources addressed in this Element often come under the purview of federal and state regulations, such as the federal Clean Water Act, and the federal and state Endangered Species Acts. The goals, policies and implementation measures found in this chapter are intended to be compatible with, but not overlap or duplicate, these federal and state requirements.

It must also be clearly understood that the identification of areas having open space resources does not imply or condone public access onto those lands unless that access is voluntarily given by the land owner. Many of the open space resources are located on privately owned lands. Protection of the resources on those lands is encouraged to occur through voluntary actions by the land owner, and the policies and implementation measures in this plan also offer incentives to the owners to accomplish that voluntary protection.

What Are Open Space Lands?

As previously noted, state law defines open space as any area of land or water which is essentially unimproved and devoted to an open space use, as defined in a local open space element. While agriculture is considered a type of open space in state law, the County General Plan addresses agricultural resources separately in an Agricultural Element. Agricultural lands may have open space attributes, but are intensely managed and their open space values are often the result of the land being in agricultural production. Those agricultural lands containing open space resources are discussed in the Agriculture Element.

Open space lands can have some level of development occur on them while still serving as open space. It should not be expected that all lands determined to have open space values shall forever more remain undeveloped and untouched. To the contrary, the open space resources may be managed in a variety of ways ranging from a hands-off approach to a program of defined intervention to best preserve and protect the identified resource.

In San Luis Obispo County, open space limits urban sprawl, provides separation between communities and helps to define the identity of each community. It protects scenic vistas and areas that are hazardous for development. It provides opportunities for recreation, be it as large wilderness areas in remote parts of the county, or as small green spaces in the heart of a community.

The following is a description of the types of open space resources in this county. These general categories are those that are identified in State planning law when describing the types of open space to be considered in the preparation of an open space element.*

OPEN SPACE FOR THE PROTECTION OF NATURAL RESOURCES.

These can include areas for the preservation of plants and animals, streams, wetlands, and watershed lands, such as: oak woodland habitats in the Adelaida area of the north county, riparian corridors along coastal streams, and wetlands such as found in Black Lake Canyon on the Nipomo Mesa.

OPEN SPACE USED FOR THE MANAGED PRODUCTION OF RESOURCES.

These can include: forest lands, rangelands and other agricultural lands (discussed separately in the Agriculture Element), commercial fisheries along our coastline, areas containing significant mineral deposits such as found along the Salinas River, and areas that may contain a variety of uses but which are important for groundwater recharge.

OPEN SPACE FOR OUTDOOR RECREATION.

Recreational opportunities can range from minimal passive activities such as hiking, to more active local and state parks, recreation facilities such as golf courses, and areas of outstanding scenic, historic and cultural values such as found in the Carrizo Plains Reserve administered by the Bureau of Land Management.

OPEN SPACE FOR PROTECTION OF PUBLIC HEALTH AND SAFETY.

There are a variety of lands in the county that pose potential threats to public health and safety if improperly developed. These can include known earthquake fault zones, floodplains, areas of unstable soils and geologic instability, lands adjacent to water reservoirs or downstream of dams, and areas of high or extreme fire hazard. In most instances, all development cannot be prohibited outright on such lands, but these areas of risk can be identified and appropriate development standards established so as to minimize the risks to the maximum extent feasible.

The following section of this chapter provides an overview of the environmental features of the county.

Environmental Features

An understanding of the physical environment and the natural processes affecting it is an essential starting point in the development of this document. The land, in combination with other natural phenomena, dictates to a large extent the type of use and the intensity of development that is possible without doing irreparable damage to the natural environment. If attention is not paid to these issues, the land owner runs the risk of possible physical and economic loss to property and investment. This long-term loss may also affect the community at large as well as future generations.

This section of the document identifies and describes critical natural phenomena that affect land use. The processes that are discussed are generalized but do serve to point up the interrelationships between the natural environment and man's use of it. Also see chapter 2 for an overview of soils and hydrology.

PHYSICAL CHARACTERISTICS

Geomorphic Regions

San Luis Obispo County sits in a central position in the southern coast range complex. There are five mountain ranges generally oriented on a northwest-southeast axis: the Santa Lucia, Temblor, Caliente, La Panza and San Luis Ranges. None of the ranges are particularly high, although several of the peaks exceed 3000 feet elevation. Extensive sections of the ranges are quite rugged and have influenced the historical development of the county. This topography has been an effective barrier to transportation corridors and intensive development.

The San Luis Range divides the coastal plains and valleys at Point Buchon into a northern and southern section. The northern coastal plain consists primarily of a relatively narrow bench that backs up to the Santa Lucia Range. It is cut by numerous short stream valleys that empty into the Pacific Ocean. The north coastal sector makes its deepest inland penetration in the vicinity of the Chorro and Los Osos Valleys.

The southern section primarily consists of the Arroyo Grande Valley, an upland area of ancient dunes referred to as the Nipomo Mesa, and a portion of the Santa Maria River Valley. The two valleys are relatively small but do contain some of the best agricultural land in the county. The south coastal area is also characterized by an extensive dune area of recent origin along the coast.

The Salinas River dominates a huge drainage basin in the northern section of the county that is bordered on the west by the Santa Lucia Range and on the east by the Temblor Range. The basin is characterized by vast low undulating hill land and valleys that generally drain to the north to Monterey County through an extensive network of tributaries. Urban development is concentrated along the edge of the Salinas River floodplain. Westerly tributaries to the Salinas River gradually transform from low hill land into the precipitous Santa Lucia Mountains. The Nacimiento River is the largest of the Salinas River tributaries within the county.

The Carrizo Plain is an entirely enclosed interior drainage basin. All drainage terminates in Soda Lake, a highly mineralized water body with a fluctuating water level. Toward the outer periphery of the basin the soil is less contaminated with mineral salts and, therefore, better for agriculture. The plains are the most arid region of the county, but extensive agricultural pursuits are present.

The Cuyama Valley drainage basin lies along the southeastern and southcentral portion of the county and about 45 percent of the entire basin is in the county. The basin is drained by the Cayuma River and its tributaries. Since this river cuts across the La Panza and Santa Lucia complexes, a good portion of the valley is a narrow ribbon meandering through rugged terrain. However, where the valley widens in the southeast, there are extensive agricultural activities.

Geology

San Luis Obispo County is located within the Coast Range physiographic province. The county is generally divided into three geologic provinces that are separated by two major northwest-trending faults. The northeast province is bounded on the southwest by the San Andreas fault zone, and is underlain at depth by a complex basement of folded and faulted Franciscan rocks of Jurassic age. Sedimentary rocks of Cretaceous to Late Tertiary age are commonly exposed at the surface in this province and are extensively folded and faulted. Pleistocene and recent age sediments are offset along the San Andreas Fault.

The central province is bounded on the northeast by the San Andreas fault zone and on the southwest by three segments of the Rinconada Fault System. This province is underlain by Cretaceous and Jurassic-age granitic basement rock. The basement has structurally been relatively stable throughout geologic history. The younger sedimentary cover has not been deformed.

The southwest province, like the northeast fault block, is underlain by a Jurassic-age Franciscan basement. Cretaceous to Late Tertiary sedimentary rocks are exposed at the surface. The rock units in this province have been folded and faulted, but the complexity of structural deformation decreases with depth.

Seismicity

There are a number of faults throughout the county. The San Andreas Fault, located along the easterly edge of the county, is classified as active and is capable of producing a maximum credible earthquake of 8.0 to 8.5 magnitude, with ground displacement as great as 20 to 30 feet. This fault is expected to be the primary source of strong ground shaking in the county. Of the faults in the county, this fault exhibits the highest levels of seismic activity.

The Nacimiento Fault is also considered to be seismically active. This is based on the high concentration of earthquake epicenters along this fault, rather than geologic evidence of recent movement. The Nacimiento Fault would also be a source of strong ground shaking in the county. The maximum probable earthquake is approximately 7.0 to 7.5 with a recurrence interval of 5,000 to 12,000 years.

The Rinconada Fault is seismically active, also. This fault has been associated with several historic seismic events that measured less than 5.0 on the Richter Scale and is a probable

source for small to moderate earthquakes. This fault is considered to pose less of a threat than the San Simeon Hosgri, San Andreas, or Nacimiento Faults.

The offshore Hosgri Fault is also considered seismically active. Along the north shore of the county, this fault appears to be associated with the onshore San Simeon Fault. This combined system of the San Simeon-Hosgri Fault is believed to have the potential for seismic events as high as 7.5 on the Richter Scale and could pose a serious threat to the coastal areas of the county.

The Los Osos Fault runs along the base of the Irish Hills in the Los Osos Valley. This fault has the potential for seismic events as high as 6.75 on the Richter Scale and poses a significant threat to the area in the vicinity of San Luis Obispo and Los Osos.

There are a number of lesser faults throughout the county that are probably inactive and are considered to pose little or no likely threat to the county. These include the San Juan, La Panza, East Huasna and West Huasna faults.

Of all the fault systems, three have been designated Special Study Zones by the California Division of Mines and Geology. These are the San Andreas Fault, the onshore San Simeon Fault, and the Los Osos Fault. Structure for human occupancy are not to be constructed over these designated active faults without county review and approval as specified in the Land Use Ordinance.

Landslides and Other Geologic Hazards

Landslides generally occur as a result of broad geologic, topographic, or climatic factors. The natural processes that trigger landslides most frequently involve an increase in stress that finally exceeds the shear strength of the earth materials. These processes include crustal movements, erosion, weathering, and finally the activities of man on the landscape. Landslides can be traced to the nature of the parent rock and the natural processes affecting it. Inherently weak rock, and rock subject to weakness with an increase in water content, are most prone to landslide. This includes fine grained sedimentary rocks, weathered bedrock, and rocks such as serpentine and schist.

Other geologic hazards include subsidence, liquefaction, tsunamis, and seiches. Ground subsidence has been identified in areas of recent stream alluvium and bay muds. These types of areas also have other associated hazards such as storm surge and flooding.

The potential for seiches (seismically induced waves in a closed body of water such as one of the reservoirs) is low in San Luis Obispo County. Along the coast, a potential tsunami (tidal wave) would not be expected to exceed the tidal range. However, a hazard could occur if a tsunami occurred at the same time as a high tide.

Additional information on geology, seismicity, landslides and other geologic hazards can be found in the Safety Element of the county general plan.

Slope Characteristics

Steep slopes are a limiting factor for almost all types of land use. They also have a pronounced effect on other natural conditions such as the type and amount of vegetation, the propensity toward soil erosion, and the rate of surface water runoff.

The Natural Resources Conservation Service provides a general description of how slopes can affect land uses. In general, agricultural crops experience moderate limitations when slopes exceed 10 percent, however, there are some crops that can be effectively produced on steeper slopes of 30 percent or more. Depending on soil characteristics, grassland used for grazing purposes may have moderate limitations above 30 percent. Slopes above 50 percent place a severe limitation on grazing, although appropriate management practices can reduce impacts. Development requiring road cuts, building pads and septic systems are best suited to slopes under 20 percent. Major problems, including the unsightly appearance of scarred hillsides and streams choked with sediment and eroded debris, increase with steeper slopes.

The prevalence of rolling or mountainous terrain places approximately 60 percent of the county into the slope range of 30 percent or greater. Another 23 percent occupies slopes ranging from 10 to 30 percent, leaving only about 17 percent of the total county land area with level to gently sloping terrain on slopes of less than 10 percent.

With so little gentle land, there is oftentimes considerable competition for land on slopes less than 15 percent. This can be a major land use problem if it results in an inefficient use of land resources. This is particularly the case when the best agricultural land lying within fertile valley deltas is sacrificed in favor of urban expansion.

Open Space Issues

One of the tasks of the Rural Settlement Study Phase I Report was to evaluate the potential environmental effects of historical development activities as well as the projections of the general plan. This was done, in part, by comparing development activity to those areas of the county covered by Sensitive Resource Area (SRA) combining designations. The report also looked at a number of other resources, both natural and cultural, including: public ownership such as forests and parks; the Highway 101 viewshed corridor; the habitat of rare plant and animal species; surface water (lakes); and oak woodlands. The location of these resources, in addition to the agricultural and sensitive resource areas, were then mapped to see if there was a concentrated pattern of important natural resources within the county and what effects rural development might have had on those resources.

Several important findings came out of that evaluation, including:

- about 30 percent of the areas where two or more of these resources were found to exist have been affected by development;
- the relatively low level of impact which has occurred can be attributed to the county's underlying topography; most of the resources are found in the mountainous terrain that has historically experienced less development pressure but that can change as development moves into the more rural locations;
- subdivision of the land through parcel and tract maps will have the greatest continuing effect on the environmental resources of the rural areas;
- the rural character of the county will be increasingly affected by the smaller lot sizes resulting from new land divisions; and
- the pattern of subdivisions moving into the rural areas containing these resources will lead to increasing conflicts.
- What are the Issues Affecting Open Space Lands?
- Population growth creates pressure to convert lands containing open space resources to non-open space uses.

Lands with open space resources are experiencing increased pressure for development that can be detrimental to the resources due to grading and land alteration that result in alterations of biosystems and destruction of habitat.

Increased population in the rural areas increases the conflicts between humans and the natural systems.

Suburban and rural residential development increases the level of human activity in rural areas. This can cause serious damage to or loss of habitat that is necessary for the long-term protection of plant and animal species. The introduction of domestic pets can be particularly harmful to wildlife. Increased development also brings the introduction of invasive non-native plant species into the rural landscape.

Rural development fragments habitat.

As habitat is fractured and reduced in size, wildlife's ability to survive is reduced. The displacement of wildlife can lead to increased competition for the basic necessities of life: food, cover, water and space. In the long run, habitat fragmentation will result in a decline in the diversity and number of species.

Land use decisions often treat conservation and economics as two mutually exclusive considerations.

Decisions about the open space resources that may be located on a given piece of land are often made when there is a crisis - significant monetary resources have already been invested in the property but the open space resources have already been seriously degraded. The consequences of crisis-driven conservation efforts can often be comparable to those of actually exhausting the resources that are trying to be conserved. A new decision making process needs to be implemented that manages land simultaneously as an ecological system and as an economic resource.

Although the county contains an abundance of open space, it is not evenly distributed, or it may not be easily accessible where multiple uses could be made of the resource.

Over 25 percent of the county land areas is under some form of public ownership. While there may be multiple uses of those publicly owned areas, much of that land can be considered to be open space.

A majority of our population lives in the relatively urbanized coastal areas and along the Highway 101 corridor and must often travel some distances to enjoy the large open areas. The County Park and Recreation Master Plan has identified existing and future shortages of recreational land in several areas throughout the county, but especially in or near these urban corridors.

Publicly owned lands may provide several open space functions such as recreation and protection of habitat, watershed and scenic resources, but those can often be competing functions. The competition between those uses may also spill over to adjacent privately owned lands. This will require careful planning and coordination between public agencies and private land owners to ensure that conflicts are avoided or minimized as much as possible.

Why Protect Open Space?

Open space should be protected because:

- Open space lands contribute to a high quality of life and make our communities more livable.

Our lives are enriched by experiencing nature in an undeveloped state, within both urban and rural areas. As population increases and more people come to the county to experience its recreational and tourism opportunities, the more challenging it becomes to try to maintain the open space that draws them here.

- Open space protects environmental resources such as important ecosystems and natural communities, and rare and endangered species of plants and animals.

As population increases, there is ever-increasing pressure to convert open space lands to non-open space uses. With this conversion comes the loss of habitat, which in turn brings a decline in the number and diversity of species. Protecting open space habitats now can reduce the need to argue over protection of rare or endangered species later.

- Open space retains land that could be made available for future production of resources.

Many open space areas are also rich in resources that can meet the needs of future generations. Production of those resources is important to San Luis Obispo County, as well as on a statewide basis. There are open space areas that contain mineral and aggregate resources. The challenge is to make wise use of those resources while keeping the important open space attributes.

- Open space defines the identity of our communities and protects the rural character of our county.

The open areas that surround many of our communities provide visual relief from continuous urbanization, prevent urban sprawl and create the character of the county's landscape that makes it special to residents and visitors.

- Open space provides a buffer between conflicting land uses.

Open space areas help define the difference between urban and rural areas. It also provides separation between uses that might be incompatible, thereby allowing incompatible uses to coexist.

- Open space protects public health and safety by identifying lands, such as floodplains and unstable slopes, that may be hazardous for development.

Maintaining open space on lands that are hazardous for development, such as floodplains and unstable slopes, protects the health, safety and welfare of both new and existing residents. It also avoids public costs of paying for property and other damage resulting from disasters such as floods, fires, landslides and earthquakes.

- Open space protects the natural scenic beauty of the county.

Scenic and sensitive features, such as the Morros, the Morro Bay estuary and wetlands, the coastal dune systems, the vast open expanses of the Carrizo Planning Natural Area, or the ecologically significant coastal streams all contribute to the high scenic quality of the county. These areas give strong definition to the overall character of the county, thereby adding to the quality of life enjoyed by residents and visitors alike. Protection of scenic resources also

encourages the growth of the recreation and tourism industries, which are important components of the county economy.

- Open space provides opportunities for educational and scientific research, including the possible discovery of new medicines, or the development of new management strategies or technologies to better preserve our resources for future generations.

Natural systems have provided the basis for many of the medicines on which mankind depends. Preservation of our natural systems provides the opportunities for future discoveries. As we study the resources, we hope we can find better ways to preserve them, while still making appropriate use of the resources. Loss of our open space resources eliminates or reduces our options for the future.

- Open space preserves the history and heritage of our county.

Preserving open space can mean protecting archaeological, cultural and historic resources such as sacred sites used by Native Americans for thousands of years.

It is not possible to have a single solution to such a wide-ranging list of issues affecting open space resources. And in many instances, the solutions may not be only local. Just as is the case for agricultural issues, many of the issues affecting open space resources may only be resolved through policies at the state and national level. However, it is important that the county have a clear statement of its open space land use policies in order to protect and conserve these resources for the future.

References

San Luis Obispo County Department of Planning and Building. 1998. Agriculture and Open Space Element of the General Plan. San Luis Obispo, CA.